

Title (en)
Pattern recognition.

Title (de)
Mustererkennung.

Title (fr)
Reconnaissance de formes.

Publication
EP 0622750 A3 19950426 (EN)

Application
EP 94303081 A 19940428

Priority
US 5552393 A 19930429

Abstract (en)
[origin: US5625707A] Pattern recognition, for instance optical character recognition, is achieved by training a neural network, scanning an image, segmenting the image to detect a pattern, preprocessing the detected pattern, and applying the preprocessed detected pattern to the trained neural network. The preprocessing includes determining a centroid of the pattern and centrally positioning the centroid in a frame containing the pattern. The training of the neural network includes randomly displacing template patterns within frames before applying the template patterns to the neural network.

IPC 1-7
G06K 9/36

IPC 8 full level
G06V 10/20 (2022.01); **G06T 1/40** (2006.01); **G06T 7/60** (2006.01); **G06V 10/70** (2022.01)

CPC (source: EP US)
G06F 18/21 (2023.01 - EP US); **G06V 10/20** (2022.01 - EP US); **G06V 10/70** (2022.01 - EP US)

Citation (search report)

- [PA] EP 0551738 A2 19930721 - AMERICAN TELEPHONE & TELEGRAPH [US]
- [A] US 5121443 A 19920609 - TOMLINSON BARRETT L [US]
- [X] G. S. HIMES ET R. M. INIGO: "Centroid calculation using neural networks", J. OF ELECTRONIC IMAGING, vol. 1, no. 73, January 1992 (1992-01-01), pages 73 - 87, XP000323330
- [A] A. KHOTANZAD ET J. H. LU: "Distortion invariant character recognition by a multi-layer perceptron and back-propagation learning", INT. JOINT CONF. ON NEURAL NETWORKS, 24 July 1988 (1988-07-24), SAN DIEGO, CA, pages 625-32, XP000041538
- [A] S. D. YOU ET G. E. FORD: "Connectionist model for object recognition", APPLICATIONS OF ARTIFICIAL NEURAL NETWORKS III, 21 April 1992 (1992-04-21), ORLANDO, FLA, pages 200-7
- [A] K. IMAI ET AL: "Pattern extraction and recognition for noisy images using the three-layered BP model", INT. JOINT CONF. ON NEURAL NETWORKS, vol. 1/3, 18 November 1991 (1991-11-18), SINGAPORE, pages 262-7, XP000325642
- [A] G. SEILER: "Small object counting with cellular neural networks", 1990 IEEE INT. WORKSHOP ON CELLULAR NEURAL NETWORKS AND THEIR APPLICATIONS, 16 December 1990 (1990-12-16), BUDAPEST, HU, pages 114 - 23, XP010010741

Cited by
US8005261B2

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
US 5625707 A 19970429; DE 69422446 D1 20000210; DE 69422446 T2 20000615; EP 0622750 A2 19941102; EP 0622750 A3 19950426; EP 0622750 B1 20000105; JP H0773329 A 19950317; US 5475768 A 19951212

DOCDB simple family (application)
US 44547095 A 19950522; DE 69422446 T 19940428; EP 94303081 A 19940428; JP 9254094 A 19940428; US 5552393 A 19930429